PSYCHICAL END-RESULTS FOLLOWING MAJOR SURGICAL OPERATIONS.*

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SAID John Hunter to a patient with an obstinate running sore, who was brought to him in consultation: "And so, sir, you have an obstinate running sore."

"Yes, Mr. Hunter."

"Then, sir, if I had your obstinate running sore I should say, 'Mr. Sore, you may run and be damned.'"

A patient of my own, two years convalescent from a fractured patella, lived in a condition of fancied pain, in despondency and worry lest he should never be able to resume his vocation as a mounted policeman. The seriously flippant suggestion that he lock his worry in a bureau drawer, and mount his horse daily, restored him to the force in less than a fortnight.

Last year Dr. VanderVeer reminded us of worry as an interesting and possible etiological factor in the development of breast cancer.

Such anecdotes and conceptions are familiar to us all; and the experienced surgeon of reflective temperament doubtless considers the psychic elements in his cases; but I doubt if we are aware always how deeply significant those elements may be in controlling the return to health of a surgical patient. Rather are we wont to accept the patient from the hands of his physician; to shrug perhaps at what we are pleased to call his neurotic state; to proceed with the operation if the obvious lesion warrants it; then, with an anatomical cure established, to shift the case back upon the weary physician for the tedious struggle back to health.

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I do not maintain that we should refuse to operate upon such discouraging cases. On the contrary, I believe, as Dr. White long ago taught, that such operations—the operation *per se*—do great good, and are important therapeutic agents. My thesis is that we should appreciate clearly the types of individuals liable to suffer from post-operative psychic disturbances, and the surprisingly large number of such persons; that we should perform the operations, of intelligent purpose; and most of all that we should recognize our ability to aid in the after-treatment, and should bear our share of its responsibility.

With such thoughts in mind I have made a careful, systematic study of a large group of general hospital patients, who were operated upon between seven and nine years ago. The task has been laborious and at times discouraging. Allow me a word about the character, scope and method of the investigation.

I undertook to select 500 consecutive mutilating operations of expediency; excluding all emergency cases, such as those of acute appendicitis and extra-uterine gestation; all traumatic cases and cases of malignant disease; cases of plastic surgery, such as hernias and perineorrhaphies; and such cases of chronic appendicitis as were not giving rise to mild symptoms at least, at the time of the operation; 500 cases of major operations; but how shall we define a major operation? The Century Dictionary tells us it is an operation involving some danger to life. What operation does not involve some danger to life? The term is as hard to define as is the term gentleman. We all think we know the breed, and we let it go at that. I sent for the patients and corresponded with them. As one would expect, a majority did not respond, but I was enabled to study satisfactorily 129. Nearly all of these 129 were unusually intelligent persons, belonging to our best class of hospital patients; and they furnish figures sufficient on which to base just conclusions. I believe I undertook my task with an open mind,—certainly with no intention to prove a hypothesis.

Certain of my figures are interesting, though the rehearsal of figures is always somewhat dreary. There are 91 women in the list of correspondents, and 38 men only; for men in hospitals are more commonly the victims of trauma than are women. Further, under the limitations of my search I found that a large majority of both men and women in my completed list had been operated on for lesions of the generative organs,—68 of the 91 women; 23 of the 38 men. The remaining 38 patients had suffered from such miscellaneous disorders as gall-stones, chronic appendicitis, benign tumor, goiter, loose cartilage in the knee joint, joint tuberculosis, renal tuberculosis and so on through a long list.

As for the persons afflicted with diseased sexual organs (and I include the female breast in this group of organs), of the 68 women the diagnoses were: ovarian tumor, 22; uterine myoma, 19; salpingitis, 11; fibrous tumor of breast, 7; cystic tumor of breast, 6; menorrhagia necessitating hysterectomy, 1; hydrosalpinx, 1; procidentia, 1. Total, 68.

Of the 23 men with diseased sexual organs the diagnoses were: varicocele, 8; hydrocele, 7; tuberculous testis, 5; hypertrophy of prostate, 2; benign tumor of scrotum, 1. Total, 23.

With such figures before us, few as these figures are, we must consider the significance of certain clinical terms. What is the meaning of the words *cure, anatomical cure, psychical result?* I take it that a cure is the important end of all therapeutic endeavor; a perfect cure is the *summum bonum,* but is it not true that a large proportion of our cures are relative only? The man with a disabling recurrent appendicitis is absolutely cured of all pain and digestive distress through the removal of his appendix; the man with gangrene of the foot is relatively cured by amputation, though he be left maimed and halting. The woman with an ovarian cyst enjoys an anatomical cure when the tumor has been excised, and the wound has healed kindly and soundly, though an unessential organ has been removed. All these are clinical cures; are cures from the surgeon's point of view; but just here there enters into the problem an element of wide-reaching metaphysical

significance. The ills of life, like all the so-called facts of life, are in direct relation, and are proportionate to our experiences. The man who has just lost his appendix, if he lacks poise and clear vision, feels that he has been through a grievous crisis, that he has suffered a great cruelty in the operation, that the sanctity of his vitals has been violated, and that he can never again be what he was. Many persons hold that view, I find.

The man who has lost his foot may find little comfort in his freedom from pain and impending death. His old life is gone. He must readjust himself to new circumstances of existence. His relations to his environment must be recast. He must limp, a cripple, through the remainder of his life, bearing with him an unsightly stump and a grievous scar to fret and distress him.

The woman whose ovary was removed, useless though that ovary may have been, believes herself to have been unsexed; she has heard tales of changes in temperament; of coarsening features, of mannish tendencies. Or, perhaps, she thinks a full set of ovaries essential to sound health and the bearing of womanly cares. She looks forward to some mysterious ill-defined change in herself, or to invalidism; and the reassuring farewell words of the surgeon fail to turn her from the expected melancholy course. Strong character and optimism are needed to overcome these tendencies of environment and condition unless aid be brought from outside sources.

How then shall we define a *cure?* I protest that a cure consists only in returning a man to that state of physical and mental health which shall enable him to live his life, to accomplish his wonted work, to adapt himself to his environment in vigor of body, and in freedom from pain; with his normal functions undisturbed; with his mind unclouded, buoyant, assertive. That is the perfect cure, but it is a cure not easy of attainment. A more common and reasonable condition of cure is a state of relative comfort and efficiency; with little pain and distress; with infrequent anxiety; with renewed if imperfect confidence in the bodily powers.

By the term *anatomical cure* we imply a sound wound-healing and a restoration of the bodily functions so far as such restoration may be compatible with the loss or damage to members and organs.

Psychical results are related to the subjective mind. Their bearing upon the cure concerns the patient not in proportion to anatomical perfection, or to potential physical and intellectual capacity, but rather to what he himself feels to be his perfection or capacity; and just in so far as his objective intelligence is feeble or has become enfeebled, just so far is he fated on the one hand to remain a wreck, or on the other hand to refit his shattered being. We must teach ourselves to look to the ultimate prognosis. It is not what we are, it is what we think ourselves to be. That is the sum total of the old argument.

Such conceptions lead us to a fair and just estimate of the results of surgery; and with such conceptions in mind we study with renewed interest the story of a large and important group of surgical patients, bearing in mind also a constant endeavor, in estimating psychical end-results, to distinguish actual anatomical failures from psychical failures due to the fact of operation in itself,—to the patient's mental distress that an operation was performed, to his skepticism, to his belief that it aggravated the disorder, to fear that another operation may impend.

There were then 39 men in our completed list; we shall consider first the men, and then the women. Of the 39 operations, 7, or 18 per cent., were unsuccessful in the end; shall we call them failures? All of these failures were *psychical* failures, and all of the operations were on the genital organs,—for varicocele, for hydrocele, for tumor of the scrotum. These seven patients were young men, apparently vigorous. They tell us that they "feel worse than ever." They complain of "pain, weakness, and feeling miserable and good for nothing," that there is "loss of will power," and that they are "weaker than before." There were 23 operations of this genital class,

so we find that 30 per cent. of such operations on the genitalia may result in failures.*

Such a finding may not surprise surgeons, but if a further analysis and consideration of the figures represent truly the average of general hospital results, we see that late psychical disturbances after operations on men are rare, and may be disregarded in our prognoses, *except* in the case of these operations on the genitalia; and that after operation on the genitalia of men we must expect persistent neurotic or psychic distress in a third of our cases.

May not these considerations induce us to amend or to alter the common assertion that psychical disturbances occur in the despised class of neurotics only? These unfortunate final invalids of my list, before operation, were no more feeble mentally and physically than were their fellows. After operation, 30 per cent. of the genital victims developed psychical ailments, while no other men on the list developed such ailments. Must we not conjecture, if we may not assert, that there is some factor inherent in these genital cases, which makes for subsequent nervous disturbances in all except the firmly balanced men? It will be objected, of course, that many men with slight anatomical lesions of the genitals seek operation for the sake of some fancied benefit, and that they are correspondingly disturbed mentally by the lack of any subsequent conspicuous anatomical improvement. Here is an interesting fact: no one of those men who were failures psychically suffered the loss of organs. Their distended veins were removed, their vaginal tunics were excised, but their testes and other essential organs were not disturbed. Shall we assume, as we seem justified in doing, that the very presence of those intact generative organs, associated with the fact of an operation, and the fear that, though sexual powers were not lost, still there remained the possibility of such loss,—shall we assume that this complex of circumstances and ideas have united to make wretched these lives? The merchant who sits

* I am aware that these figures are significant merely. They are too few to justify broad conclusions.

in his office expecting bankruptcy is an unhappy, unnerved wretch. The same merchant revives his drooping spirits and retricks his beams after the blow has fallen. And singularly enough our studies of the hospital list show us—as a comparison with the psychic wrecks—that an equal number of men who have actually lost important organs, testes and prostates, that these men have no psychical disturbances, whether or not they are anatomically cured. They have lost their testes and their prostates and they may suffer from tuberculous sinuses and incontinence of urine, but they are reasonably cheerful, vigorous and useful men.

The significant observation regarding the men in our list therefore is that those suffer especially from psychic disturbances who are left with sound functionating sexual organs, but are living in dread that the enjoyment of those organs some day may be lost to them. If this observation be true it brings us back directly to the second great fundamental fact of all life—the attitude of the sexes towards each other, and the obligation of procreation. These are elemental conceptions, outgrown by those rare individuals only, whose intellectual development may have taught them completely to subordinate the physical to the intellectual part of their being.

The women in our list furnish us with a problem somewhat similar to that of the men, but represented in larger and more complex figures. I have said that of the 91 women, 68 were operated upon for some lesion of the sexual organs, and that these operations were mutilating. If we accept our previous definition of cures, we find that 33 of these 91 operations were in some sort failures; but that 5 only were anatomical failures, while 30 were psychical failures. In other terms, 40 per cent. of the operations were failures, but 35 per cent. of this 40 per cent. were psychical failures. And bear in mind that all of these cases of psychical failure are recorded "well" at the time of their discharge from the hospital. Let us examine the cases of sexual and of non-sexual mutilation among these women: 68 of the 91 women are in the sexual list, 23 in the non-sexual list. Of the 68 in the sexual list,

25 are failures, but 24 of these are psychical failures. Of the 23 in the non-sexual list, 8 are failures; and of these 8, six are psychical failures. We remember that in our list of men there were no non-sexual failures. Perhaps these confusing figures will be more obvious if we reduce them to percentages:

STATISTICS OF WOMEN.

Total number of operations	'91	
Total number of failures	37.4	per cent.
Total psychical failures	35	per cent.
Total operations on sexual organs	68	
Total failures in operations on sexual organs	37	per cent.
Psychical failures in operations on sexual organs	35	per cent.
Total operations on non-sexual organs	23	
Total failures in non-sexual list	35	per cent.
Psychical failures in non-sexual list	26	per cent.

Thrown into general terms this table means that while three-fourths of the operations in women were on the sexual organs, both sexual and non-sexual operations showed a nearly equal percentage of failures; and that in both sets of operations the psychical failures far out-number the anatomical failures. And further, women appear to be poor psychical risks after all operations, but somewhat worse after sexual than after non-sexual operations.

Let us enquire further as to the various subordinate types of those operations which have been followed by psychical disturbances, early or late:

GYNÆCOLOGICAL OPERATIONS.

	Total	Total failures	Psychical failures	Per cent. psych. failures
Ovarian cysts	22	8	8	36.4 per cent.
Myomata uteri	19	8	8	42.1 per cent.
Salpingitis	11	6	5	45.5 per cent.
Fibromata of breast	7	2	2	28.6 per cent.
Cysts of breast	6	1	1	16.8 per cent.

Our cases, not included in the table above, are too few in each class to afford instructive figures, but the results of the totals are those I have given in Table I. As for the classes in Table II, no one class is particularly striking, but in gen-

eral terms it appears that mutilating operations on the uterus and adnexæ give a worse showing psychically than do operations for non-malignant breast tumors. One asks, perhaps, on what we do base our conclusions that these patients are psychic failures. On the following circumstances: the patients are recorded as anatomically "well" on leaving the hospital, and they have been asked the following questions eight years later: (1) How long had you been suffering before your operation? and how? (2) Could you work? (3) When did you get back your strength after the operation? (4) How long after leaving the hospital before you could do your regular work? (5) Did the operation cure you completely? (6) Are you glad you had the operation? (7) Have you had any return of the old trouble? (8) Have you had any bad symptoms due to the operation? (9) Do you worry about yourself? (10) If so, why?

My conclusion that certain patients regard themselves as still unsound is founded on a careful record of their complaints. Their replies are all quite similar and are variations of such phrases as, "I am very weak, and have had no relief"; "I am greatly debilitated"; "I have been a wreck for five years"; "I have the old pain and am very nervous and weak"; "I have never been strong; am weak, nervous, tired and easily confused"; "I have poor endurance, and am more weary than before," etc., through columns of similar writing.

So much for the surface value of these studies, and in this brief paper I have been able to touch on a few phases only of our elaborate figures. If I were to leave the matter here, however, I should be giving a grossly false and pessimistic impression of the advantage of surgical operations from the patient's point of view. Nearly all of my correspondents—the most pronounced psychic wrecks even—assert that they are glad the operation was done. The persons with anatomical failures are those who regret the operation. The persons with psychic failures are feebly complacent because, as they say constantly, their physician has told them that the choice lay between operation and death or a worse invalidism.

Another and important factor in this investigation is the personal equation of the investigator. I endeavored to meet this difficulty by maintaining an unbiassed attitude and by associating with myself a critical assistant who had no special previous interest in the matter. Nevertheless I admit that other surgeons might read other interpretations into the answers we received.

I believe there is a further and striking observation to be made in connection with these studies; and an important lesson to be drawn, which should influence our practice.

Private practice will show no such large percentage of psychical failures as hospital practice shows. I say this without the figures of private practice at hand, but eighteen years of experience in such practice, and the careful following of all private surgical cases convince me that what is now an impression merely would be proved a fact.

The reason for this assumed divergence in the results of general hospital and private practice does not depend upon the types of patients. If the type of patient determined psychical results, I believe the failures in private operating would be greater than in hospital operating. The reason for the divergence is that the personal influence of the surgeon is allowed to count constantly for good in the case of private patients. This is no time for a dissertation on psychotherapy, but all men who are in any way alive to the experience and teaching of recent years, must recognize the significance of the healer's personal influence, by whatever special name that healer may be called.

The patient goes, or is sent, to a surgeon because that surgeon is assumed to be a person specially qualified to treat that patient. The relationship thus established is, or should be, one of assured confidence on the part of the patient. As a rule, and while this relationship is maintained, the progress of the patient is good. Delay in progress and the development of psychical symptoms appear after the immediate relationship is severed. Almost instinctively we recognize, or should recognize, this fact in the case of our private patients;

and we keep them under more or less constant observation until health is restored. Later, if trouble develops, or bad symptoms recur, such patients return to the surgeon, often for encouragement and reassurance only; and the benefit secured appears constantly and notoriously out of all proportion to the advice such patients receive. For such special advice to the special patient, and for the special ailment, the surgeon must be more effective than the patient's family physician even though with that physician the surgeon must be in constant and cordial correspondence. By such means only shall the surgeon bear his share of the responsibility, and realize properly the ultimate prognosis.

But the hospital patient,—how shall he share in these benefits? I confess the problem seems almost impossible of solution, as our great city clinics are constituted. Some little is now being done, perhaps, through such social visiting movements as have been attended by an interesting success, of late, at the Massachusetts General Hospital. Neurotic patients are visited by trained persons at their homes and working places. Their home life, the circumstances of their work, their worries, difficulties, and mental states are investigated; and they are given intelligently a sense of being guided and supported towards better things. The busy surgeon cannot undertake such tasks, but he may avail himself of expert assistance in these lines, and may see occasionally the worst of the cases which are reported to him. In desultory fashion I have myself tried this plan, and am satisfied that it has brought back some discouraging cases to a cheerful and useful life. It is an old story that we specialists are in danger of drifting away from the proper function of a physician,—the restoring of health as well as the saving of life. I believe that in the nature of our work we cannot with propriety act as pure material scientists only—as mere investigators, experimenters and operators. With a little added thought, and with the proper machinery of assistants and subordinate workers, we should be able to eliminate largely the considerable number of psychic failures and invalids who trace their pains to the surgeon's incomplete endeavors.